ABSTRACT

An aortic shunt comprising a second tubular member nested within a lumen of a first tubular member, wherein aortic blood flows through the lumen of the first tubular member and oxygenated and/or cooled blood is infused through a lumen and distal port(s) of the second tubular member to perfuse the cerebral vasculature. Alternatively, a cooling cylinder is nested within the first member, such that aortic blood is cooled through the cylinder before being delivered to the brain. A venous return catheter comprising an elongate tubular member is also provided to remove and isolate the cooled blood entering through jugular veins from the blood entering through the subclavian veins, when the cannula is positioned in the superior vena cava. Methods of using the aortic shunt and/or venous return cannula in providing selective cerebral perfusion in patients suffering from stroke and cardiac arrest are also disclosed.